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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,913	07/27/2001	Hisashi Ohtani	SEL-147 CON	9231

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EXAMINER	
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ART UNIT	PAPER NUMBER

2825

DATE MAILED: 01/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/916,913

Applicant(s)

OHTANI, HISASHI

Examiner

Lex Malsawma

Art Unit

2825

NW

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/449,140.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 8, 2003 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 12, 14, 15, 17, 36, and 37 are rejected under 35 U.S.C. 102(e) as being anticipated by Hamada et al. (6,114,183, **hereinafter** “Hamada”).

Regarding Claims 12, 14, 15 17, 36, and 37:

Hamada discloses (in Fig. 8) an organic electroluminescence display device comprising:
a resin substrate 12 (col. 4, lines 46-49);
an (underlying) insulating film 35 comprising silicon nitride, silicon oxide, or silicon nitride oxide (col. 6, lines 65-67) in contact with the resin substrate 12 (Fig. 8); and
an electroluminescent element 17 (Fig. 8 and col. 7, lines 20-21) formed over the insulating film and connected to the TFT, said electroluminescent element having a light emitting layer 52 comprising an organic material (col. 7, lines 16-19). Therefore, these claims are anticipated.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 13, 16, 18-35, and 38-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamada (6,114,183) in view of Yamazaki et al. (6,242,758, **hereinafter** “Yamazaki”).

Regarding Claims 13 and 16:

Hamada anticipates the device of claim 12 but does not specify a particular type of resin used for the substrate; accordingly, Hamada **lacks** the resin substrate comprising (specifically of) polyethylene terephthalate (PET). Yamazaki **teaches** that utilizing a PET substrate, in a device

similar to that of Hamada, has an advantage of imparting flexibility with transparency to the device structure (col. 1, line 63 to col. 2, line 17; and note col. 1, lines 48-53). It would have been obvious to one of ordinary skill in the art to modify Hamada by specifically utilizing PET for the resin substrate as taught by Yamazaki because such a modification could significantly improve device performance and reliability (note prior art problems specified by Yamazaki in col. 1, lines 48-53); furthermore, since Hamada does not specify any particular type of resin used for the “resin substrate”, it would have been obvious to one of ordinary skill in the art to utilize any known type of “resin substrate” such as the PET substrate disclosed by Yamazaki.

Regarding Claims 18-35, and 38-43:

Hamada discloses all limitations within these claims except for an (underlying) insulating film comprising nitride (or oxy-nitride) positioned on the resin substrate such that a TFT is formed/positioned over the insulating film. It is noted Hamada discloses that the TFTs 33 are formed over the substrate 12 (note Fig. 8), wherein the substrate 12 is generally disclosed as a resin substrate, i.e., Hamada does not provide specifics regarding the substrate 12 (note col. 4, lines 46-49). As explained in the previous paragraph, Yamazaki **teaches** benefits for utilizing a PET substrate, wherein the utilization of such a substrate includes the following:

a resin substrate 101 (Fig. 1A) comprising PET (note col. 3, lines 39-44); and

an insulating film 102 (Fig. 1A) comprising an acrylic resin on the resin substrate 101 (col. 3, lines 53-63). Yamazaki **lacks** the insulating film 102 comprising a nitride selected from a group consisting of silicon nitride and silicon oxy-nitride. However, **note that Yamazaki specifies (in col. 3, lines 51-63) the insulating film 102 is an acrylic resin layer that serves to planarize the uneven surface of the PET film** (i.e., the PET substrate 101) because PET film

surfaces generally have unevenness that greatly affects the electrical properties of a semiconductor layer, i.e., Yamazaki specifies that it is important to planarize the base on which an active device (such as a TFT) is to be formed. Hamada **teaches** (note paragraph bridging cols. 6-7) that planarization of a substrate surface can be achieved by utilizing a planarizing insulating 44 comprising a plurality of materials including acrylic resin film, silicon nitride, or silicon nitride oxide (i.e., a “multi-layer” comprised of silicon nitride and silicon oxide). Given Hamada and Yamazaki, one of ordinary skill in the art would have realized that the planarizing acrylic resin 102 of Yamazaki and the planarizing nitride 44 of Hamada are functionally equivalent, especially since Hamada discloses that the two materials (acrylic resin and nitride) can be interchanged when used as a planarizing film. Modifying Hamada by utilizing a PET resin substrate (as taught by Yamazaki) would result in the substrate 12 (of Hamada) being replaced with the combined substrate of Yamazaki (i.e., combination of PET substrate 101 and the planarizing film 102, note Yamazaki, Fig. 1A). Therefore, in addition to the reasoning provide above (see *Regarding Claims 13 and 16*), the instant claims are held obvious over Hamada in view of Yamazaki because all pertinent aspects of the claimed invention are disclosed within the two references; and the only specific change necessary to arrive at the claimed invention is to replace a well-known material (acrylic resin) with another well known material (silicon nitride or silicon oxy-nitride) when planarizing the PET substrate 101 (of Yamazaki). In other words, the instant claims are held obvious over the cited references primarily because it has been held to be within the general skill of a worker in the art to select a known material (i.e., to select a nitride instead of acrylic resin) on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. *Specifically regarding claims 24,*

27, 30, 33, 40, and 42: Hamada specifies (in col. 9, lines 2-4) that the TFTs may have active layers comprised of amorphous silicon or they may comprise polycrystalline silicon (not col. 4, lines 43-45), i.e., in Fig. 8, the active layer 34 of TFTs 33 would be amorphous silicon and the channel regions will be located within the active layer 34.

Status of the Claims

6. Claims 12-43 are pending.

Remarks

7. Applicant's remarks/arguments have been fully considered, but they are moot in view of the new grounds of rejections necessitated by the amendments made to the claims. All pending claims (12-43) stand rejected under 35 USC § 102 or 103.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lex Malsawma whose telephone number is 571-272-1903. The examiner can normally be reached on Monday through Thursday (8 AM - 6 PM EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Smith can be reached on 571-272-1907. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

Lex Malsawma



January 24, 2004



MATTHEW SMITH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800